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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,573	12/17/2001	Gary J. Puppa	53921/186	6253

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EXAMINER

NG, CHRISTINE Y

ART UNIT PAPER NUMBER

2663

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,573

Applicant(s)

PUPPA ET AL.

Examiner

Christine Ng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said portion" in lines 3-4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2003/0031124 to Chow et al in view of U.S. Patent No. 6,775,239 to Akita et al.

Referring to claims 1 and 8, Chow et al disclose in Figures 2 and 3 a method of re-establishing a connection (source 111 to destination 131) for a communication link, said communication link having a first portion in a first communication network (network 130), a second portion in a second communication network (network 110) and an interface (primary/secondary nodes 112/113; primary/secondary nodes 132/133)

connecting said first portion to said portion, said first communication network having a first communication protocol (ring or mesh network) and a first protocol (detector function in primary/secondary nodes 112/113) adapted to monitor integrity of said first portion, said second communication network having a second communication protocol (ring or mesh network) and a second protocol (detector function in primary/secondary nodes 132/133) adapted to monitor integrity of said second portion. Refer to Sections 0025-0028. The method comprises:

Utilizing said second protocol to detect a failure in said second portion. Primary node 112 detects a failure between source 111 and primary node 112; secondary node 113 detects a failure in primary node 112; and secondary node 113 detects a failure in any node or link between the primary and secondary nodes. Refer to Section 0033; Section 0034; and Section 0035, lines 1-10.

Upon detection of said failure, identifying an alternate route (secondary routes 118/118A/118B) for said second portion in said second communication network, said alternate route being able to complete said second portion of said communication link from said interface. After detecting the failure, data is switched from primary routes 115/116 to secondary routes 118/118A/118B. Refer to Section 0033; Section 0034; and Section 0035, lines 1-10.

For said communication link, at said interface replacing said second portion with said alternate route. Refer to Section 0033; Section 0034; and Section 0035, lines 1-10.

Chow et al do not disclose that the first and secondary protocol used to monitor integrity of the first and second portions are an OAM protocol.

Akita et al disclose in Figures 3-4 a method for detecting faults between a MPLS router and an ATM switch using OAM cells. The MPLS router generates and transmits OAM cells to the ATM switch. The ATM switch then loops back the OAM cells to the MPLS switch so that the MPLS router can compare the received OAM cells with the received OAM cells in order to detect path faults. Refer to Column 4, line 56 to Column 5, line 14; and Column 7, line 50 to Column 8, line 15. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the first and secondary protocol used to monitor integrity of the first and second portions are an OAM protocol; the motivation being that OAM cells are a standard protocol using for fault detection and notification.

5. Claims 2-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2003/0031124 to Chow et al in view of U.S. Patent No. 6,775,239 to Akita et al, and in further view of U.S. Publication No. 2002/0112072 to Jain.

Referring to claims 2 and 9, Chow et al and Akita et al do not disclose that said first communication network is an ATM network; said first OAM protocol is one of PNNI and ATM OAM; said second communication network is a MPLS network; and said second OAM protocol is MPLS OAM.

Jain discloses in Figure 1 a method of performing protection route switching between two disparate networks, wherein network 100 is a MPLS network and the external equipment 112-122 may include equipment operating according to ATM. Refer to Sections 0029, 0034, 0035, 0041 and 0042. Each ATM and MPLS network would

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inherently have its own OAM protocol to perform network monitoring. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that said first communication network is an ATM network; said first OAM protocol is one of PNNI and ATM OAM; said second communication network is a MPLS network; and said second OAM protocol is MPLS OAM. One would be motivated to do so in order to provide an interface between MPLS and ATM networks.

Referring to claim 3, Chow et al disclose that identifying an alternate route for said second portion in said second communication network is performed at said interface. The primary/secondary nodes 112/113 detect the failure and notify the source node 111 to switch the data traffic to an alternate path. Refer to Section 0033; Section 0034; and Section 0035, lines 1-10.

Referring to claims 4 and 10, Chow et al do not disclose that utilizing said second OAM protocol to detect a failure in said second portion comprises monitoring said second portion for receipt of frames containing MPLS OAM information and debouncing said frames.

Akita et al disclose in Figures 3-4 a method for failure detection between a MPLS router and an ATM switch. The MPLS router generates and transmits OAM cells to the ATM switch. The ATM switch then loops back the OAM cells to the MPLS switch so that the MPLS router can compare the received OAM cells with the received OAM cells in order to detect path faults. Refer to Column 4, line 56 to Column 5, line 14; and Column 7, line 50 to Column 8, line 15. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that utilizing said

second OAM protocol to detect a failure in said second portion comprises monitoring said second portion for receipt of frames containing MPLS OAM information and debouncing said frames. One would be motivated to do so because OAM cells are a standard loop-back protocol used for fault detection and notification.

Referring to claims 5 and 11, Chow et al and Akita et al do not disclose that wherein for identifying an alternate route for said second portion in said second communication network, a list of alternate routes for said second portion is maintained and accessed to identify said alternate route.

Jain discloses in Figures 6A-6B a method for establishing a list of alternate protection routes to replace a failed route. Refer to Sections 0083-0093. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that wherein for identifying an alternate route for said second portion in said second communication network, a list of alternate routes for said second portion is maintained and accessed to identify said alternate route. One would be motivated to do so in order to provide "for increased fault tolerance and/or load balancing" (Section 0084, lines 2-4).

Referring to claim 6, Chow et al do not disclose that said first OAM protocol is adapted to detect failures in said second portion.

Akita et al disclose in Figures 3-4 a method for failure detection between a MPLS router and an ATM switch. The MPLS router generates and transmits OAM cells to the ATM switch. The ATM switch then loops back the OAM cells to the MPLS switch so that the MPLS router can compare the received OAM cells with the received OAM cells

in order to detect path faults. This method allows the MPLS router to detect faults in both the MPLS router and the trunk switch. Refer to Column 4, line 56 to Column 5, line 14; Column 7, line 50 to Column 8, line 15; and Column 9, lines 5-11. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that said first OAM protocol is adapted to detect failures in said second portion; the motivation being so that the first network can detect faults in the second network, thereby facilitating fault detection and data transmission.

6. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2003/0031124 to Chow et al in view of U.S. Patent No. 6,775,239 to Akita et al in view of U.S. Publication No. 2002/0112072 to Jain, and in further view of U.S. Patent No. 6,011,780 to Vaman et al.

Chow et al, Akita et al and Jain do not disclose utilizing said second OAM protocol to detect clearance of said failure in said second portion; and upon detection of said clearance of said failure, for said communication link, at said interface replacing said alternate route with said second portion.

Vaman et al disclose in Figure 7 a method for switching from a primary path to a secondary path during congestion of the primary path. Upon congestion resolution, data traffic can be re-routed back onto the primary path. Refer to Column 11, line 39 to Column 12, line 5. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include utilizing said second OAM protocol to detect clearance of said failure in said second portion; and upon detection of said clearance of said failure, for said communication link, at said interface replacing said

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alternate route with said second portion. One would be motivated to do so in order to re-route traffic back onto the primary path after the failure is resolved and restore the original configuration.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng *ω*
September 15, 2005


RICKY NGO
PRIMARY EXAMINER

9/27/05